C. Remarks

The claims are 1-3 and 5, with claim 1 being the sole independent claim. Claim 4 has been cancelled without prejudice or disclaimer. Claim 1 has been amended to include the features of cancelled claim 4. No new matter has been added. Reconsideration of the claims is expressly requested.

Claims 1-3 stand rejected under 35 U.S.C. § 103(a) as being allegedly obvious from U.S. Patent No. 4,825,249 (Oki) in view of U.S. Patent No. 3,387,071 (Cahill). Claim 4 stands rejected under 35 U.S.C. § 103(a) as being allegedly obvious from Oki in view of Cahill and further in view of U.S. Patent No. 5,840,782 (Limerkens). Claim 5 stands rejected under 35 U.S.C. § 103(a) as being allegedly obvious from Oki in view of Cahill and further in view of U.S. Patent No. 4,980,108 (Suzuki). The grounds of rejection are respectfully traversed.

Prior to addressing the merits of rejection, Applicants would like to briefly discuss some of the features and advantages of the presently claimed invention. That invention, in pertinent part, is related to a process for producing a cleaning blade. In this process, at least a part of the surface portion of a urethane resin blade is impregnated with an isocyanate compound. After the impregnation, warm or hot air at a temperature not lower than the melting point of the isocyanate compound is blown on the blade surface to remove the isocyanate compound remaining on the surface. The urethane resin that forms the blade is allowed to react with the isocyanate compound, with which the blade stands impregnated, to form a cured layer. As result of this process, the prior art problems associated with the friction of a urethane resin blade are resolved.

Oki discloses a cleaning blade for use with a photoelectronic copying machine, comprising a urethane substrate coated with a specific perfluoropolyether, which may have an isocyanate at one of its ends. As noted by the Examiner, Oki teaches applying the perfluoropolyether only by dipping. Also, as acknowledged by the Examiner, Oki does not teach blowing warm air or hot air on the blade surface to remove the isocyanate compound remaining on the blade surface.

The Examiner has taken a position that applying a coating by dipping is equivalent to impregnating. However, Comparative Example 1 (page 34) and Table 1 (page 35) in the subject application clearly demonstrate that coating by dipping is substantially different from the presently claimed impregnation.

Specifically, the cleaning blade in Comparative Example 1 was prepared by immersing the urethane resin blade in a bath in lieu of impregnation, and excess isocyanate was not removed by blowing hot air. As a result, Table 1 shows that toner slip-through was observed, which resulted in inferior images. Thus, clearly, Oki fails to teach claimed steps (1) and (2).

Cahill cannot remedy Oki's deficiencies. Cahill is directed to modified urethane fibers. Specifically, Cahill teaches how to modify urethane fibers to improve their heat resistance, toxic properties and elasticity (col. 1, lines 43-56). Cahill, however, also does not disclose or suggest steps (1) and (2) of the presently claimed invention.

Cahill, as mentioned above, is directed solely to fibers. Thus, clearly, it does not disclose or suggest step (1) related to the impregnation of a blade.

The Examiner, however, has alleged that Cahill teaches blowing hot air via the disclosure at column 2, lines 55-57, and column 5, lines 1-5. Applicants respectfully disagree.

Specifically, at column 2, lines 55-57, and column 5, lines 1-5, Cahill teaches hot air curing. However, hot air curing is not synonymous with blowing hot air as claimed. This is clearly show by Cahill, which specifically teaches at column 4, lines 63-70, that a thread is passed through an oven to remove the solvent and excess polyamine and cure the thread in hot air. Thus, Cahill only teaches placing a thread in a hot air atmosphere to conduct hot air curing. No blowing of hot air is disclosed.

Also, the advantages sought in Cahill (e.g., flexibility and heat resistance) are already present to a satisfactory degree in urethane cleaning blades (see specification, page 1, lines 19-21). The additional improvements sought in Cahill are believed to specifically concern fibers, which are quite different in structure and use from cleaning blades. For example, when the thread is impregnated with an isocyanate, it is impregnated in its entirety. However, when a blade is impregnated, the amount of the isocyanate differs in the thickness direction, resulting in formation of a cured layer. The fiber would not achieve the properties desired in Cahill if only a cured layer is formed.

Limerkens cannot cure the deficiencies of Oki and Cahill. Specifically, Limerkens is directed to microcellular elastomers, such as shoe soles. This reference fails to disclose or suggest the same features, which are missing in Oki and Cahill, as discussed above.

Furthermore, Limerkens even fails to disclose or suggest the feature for which it was cited by the Examiner. In particular, the Examiner alleged that Limerkens discloses the water amount recited in claim 4 (now in claim 1). Applicants respectfully disagree.

The water content ratio in Limerkens is based on the weight of the entire reaction system (col. 3, lines 65-col. 4, line 4). The water content in claim 1 is based on the weight of the urethane resin *per se*. Thus, the water content recited in Limerkens is different both in kind and in the amount from that presently claimed.

Furthermore, the water in the reactive system in Limerkens is used as a foaming agent, in the absence of other blowing agents, to control the density. To the contrary, the small amount of water that may be present in the urethane resin in accordance with the present invention is kept to a minimum to avoid foaming, which can make the blade surface uneven (see specification, page 21, line 24 - page 22, line 7). Clearly, there is no motivation to look to the disclosure in Limerkens directed to water content used to foam polyurethane when preparing a urethane blade.

Lastly, Suzuki also cannot supplement the missing teachings of the above-discussed references. Suzuki is directed to a method of forming a polyurethane coating on a biaxially oriented polyester film. Like the other references, Suzuki fails to disclose or suggest impregnation of urethane with an isocyanate to form a cleaning blade as presently claimed.

In conclusion, Applicants respectfully submit that whether considered separately or in any combination, the documents of record fail to disclose or suggest the

presently claimed elements. Wherefore, withdrawal of the outstanding rejections and passage of the application to issue are respectfully requested.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

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